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MEMORANDUM

To: Ted Lietzke
Site Project Manager for ARCS

cc: Jerry Canfield
Liz Bartz

From: Jeff Groen, Project Hydrogeologist

Date: January 14, 1994

Subject: Wisconsin Steel Works Site, Project #04015.23
Comments on USACE Proposed Monitoring Well Locations

During a meeting with the U.S. Army Corp. of Engineers (USACE - Buffalo), we were asked to comment on proposed monitoring well locations at the Wisconsin Steel Works Site (WSW) in Chicago, Illinois. The Corps requested that these comments be completed by mid-January, 1994, prior to their preparation of a Phase II Work Statement for contractor quotations.

Our technical review of the "Site Characterization Interim Report (9/93)" was completed on November 4, 1993. Among the chief concerns addressed within the comments were the following:

- Characterization/Investigation of LNAPLs via water table monitoring wells. (No water table wells have been completed on the site. Nonetheless, free-floating petroleum product appears to have been observed in several monitoring wells, including MW-5 and MW-19.)

- Investigation of the site-specific stratigraphy beneath the Wadsworth Till as well as sampling and analysis of these deeper geologic units possible DNAPL contamination (especially in the vicinity of the former Coke Plant - Area II).

In response to the above comments the Corps has proposed the installation of six Carmi Sand monitoring wells (all of which we assume will be water table wells) and eight deep monitoring wells set on the "top of rock" (assumed to mean above the bedrock), existing 50 to 80 feet below land surface based on the Interim Report.

The Corps' monitoring well proposal included a 4-page submittal with a brief rationale for each monitoring well location. In general, their proposal does address the two concerns listed above.

CHARACTERIZATION/INVESTIGATION OF LNAPLS

Proposed monitoring wells MW-31A and MW-32A appear to be located very close to previously-installed MW-5 and MW-19 where free-floating product is suspected. Rather than installing one water-table monitoring well at these locations we recommend that three water-table monitoring wells be triangulated around each of these two locations. Hence, we are recommending that six, rather than two, monitoring wells be installed. These wells should be installed within 25 feet of the two existing monitoring wells. Revisions

We also recommend that additional water-table monitoring wells be installed in the vicinity of SB-17 in the slag area, MW-28 (a proposed deep monitoring well), and MW-16B (unless the Corps can confirm that existing MW-16 is a water table monitoring well).

In brief, we recommend that a total of 13 water table monitoring wells be installed, rather than the proposed six monitoring wells.

INVESTIGATION BENEATH THE WADSWORTH TILL

We request that the SOP for the investigation of units beneath the Wadsworth Till be submitted for review before the investigation is authorized. Our chief concern regarding the sampling and analysis of these deeper geologic units is the possibility of cross-contamination via the bore-hole conduit. If contamination is observed in the surficial units, then double-casing of the deeper monitoring wells, or its equivalent, may be necessary to prevent such cross-contamination.

We also recommend that the deep monitoring wells not be set on the "top of rock" unless the bedrock is an impermeable confining unit. If, however, groundwater is observed above the bedrock, then we concur with the Corps' recommendations.

In brief, we concur with the Corps' proposed deep monitoring well locations, and we anticipate that eight such wells are sufficient for this stage of the investigation.